

**AMENDMENTS TO THE CLAIMS**

1. (Original) An isolated human protein capable of participating in the human PTCH/SHH pathway during embryonic development and/or carcinogenesis, which is essentially comprised of SEQ ID NO:1.

2. (Original) An isolated human protein capable of participating in the human PTCH/SHH pathway during embryonic development and/or carcinogenesis, which comprises at least about 1000 amino acids as listed in SEQ ID NO:1.

3. (Original) An isolated human protein capable of participating in the human PTCH/SHH pathway during embryonic development and/or carcinogenesis, which comprises at least about 1040 amino acids as listed in SEQ ID NO:1

4. (Original) An isolated human protein capable of participating in the human PTCH/SHH pathway during embryonic development and/or carcinogenesis, which comprises at least about 1100 amino acids as listed in SEQ ID NO:1.

5. (Original) A medicament, comprising: a protein according to any of claims 1-4, or a nucleic acid encoding a protein according to any of claims 1-4.

6. (Original) A method of treating a condition involving tumors, comprising:

administering a protein according to any of claims 1-4, or a nucleic acid encoding a protein according to any of claims 1-4 to a patient in need thereof.

7. (Original) A method of in vitro or in vivo diagnosis, wherein a protein according to any of claims 1-4, or a nucleic acid encoding a protein according to any of claims 1-4, is used.

8. (Original) A method of screening wherein a library of suitable candidate compounds is screened for modified drugs using a protein according to any of claims 1-4, as a lead compound.

9. (Original) A method of synthesis of a modified drug, wherein a protein according to any of claims 1-4 is used.

10. (Presently Amended) A modified drug identified by the method according to claim 8, ~~or synthesized according to claim 9.~~

11. (Original) An antibody which specifically binds to a protein according to any of claims 1-4.

12. (Original) A recombinant cell expressing an antibody according to claim 11.

13. (Original) A kit for the detection of a human PTCH2 polypeptide comprising in a container a molecule selected from the group consisting of a protein according to any of claims 1-4, or an antibody which specifically binds to a protein according to any of claims 1-4.

14. (Currently Amended) ~~Use~~ A method for treating a medical condition comprising:

administering a therapeutic amount of a nucleic acid encoding a protein according to any of claims 1-4, ~~in gene therapy~~ to a patient in need thereof.

15. (Currently Amended) ~~Use of~~ A probe comprising a nucleic acid encoding a protein according to any of claims 1-4 ~~as a probe, a primer, or a diagnostic reagent.~~

16. (New) A primer comprising a nucleic acid encoding a protein according to any of claims 1-4.

17. (New) A diagnostic reagent comprising a nucleic acid encoding a protein according to any of claims 1-4.

18. (New) A modified drug synthesized by the method according to claim 9.